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WHAT IS CLAIMED IS:

1. A method of optically determining coordinates in a predetermined space, comprising:

providing a predetermined number of pairs of light emitting elements and light detecting elements in the predetermined space defined by a predetermined number of axes;

placing each of the pairs parallel to one of the predetermined number of the axes, each of the pairs including one linearly and equidistantly placed set of the light emitting elements and another linearly and equidistantly placed set of the light detecting elements;

sequentially activating one of the light emitting elements in one of the pairs for emitting light;

inputting input coordinates in the predetermined space by interrupting the emitted light from the sequentially activated one of the light emitting elements;

detecting the light from the sequentially activated one of the light emitting elements at a plurality of predetermined ones of the light detecting elements of the one of the pairs so as to generate a detection result, the predetermined ones of the light detecting elements overlap for some of the sequentially activated ones of the light emitting elements;

repeating said sequentially activating and said detecting for each of the predetermined number of the axes; and

determining the input coordinates in the predetermined space based upon the detection result from said detecting.

2. The method of optically determining coordinates according to claim 1 wherein the predetermined space is two-dimensional and the predetermined number of pairs is two.

3. The method of optically determining coordinates according to claim 1 wherein the predetermined space is three-dimensional and the predetermined number of pairs is three.

4. The method of optically determining coordinates according to claim 1 wherein the predetermined ones of the light detecting elements in said detecting are determined in advance for each of the light emitting elements and are stored in a table.

5. The method of optically determining coordinates according to claim 4 wherein the predetermined ones of the light detecting elements are compared to the detection result in said determining.

6. The method of optically determining coordinates according to claim 1 wherein the detection result is a minimal distance pair having a minimal difference in distance between a centrally located position of the predetermined ones of the light detecting elements that fail to detect the light and a corresponding position of the sequentially activated light emitting elements.

7. The method of optically determining coordinates according to claim 6 wherein a location of the centrally located one of the predetermined ones of the light detecting elements that fail to detect the light is arithmetically determined.

8. The method of optically determining coordinates according to claim 7 wherein the minimal distance pair is determined for each of the axes.

9. The method of optically determining coordinates according to claim 8 wherein the input coordinates are determined based upon the corresponding ones of the sequentially activated light emitting elements if the minimal distance pair is zero for each of the axes.

10. The method of optically determining coordinates according to claim 8 wherein the input coordinates are determined based upon coordinates of a cross point of lines if the minimal distance pair is other than zero for any of the axes, each of the lines being defined by the centrally located position of the predetermined ones of the light detecting elements that fail to detect the light and the corresponding one position of the sequentially activated light emitting elements.

11. The method of optically determining coordinates according to claim 1 wherein said repeating said sequentially activating and said detecting is continuously performed until a predetermined amount of time elapses.

12. The method of optically determining coordinates according to claim 11 wherein each of the light emitting elements is sequentially activated in a limited area before the predetermined amount of time elapses.

13. The method of optically determining coordinates according to claim 12 wherein every Nth number of the light emitting elements is sequentially activated, the Nth number being a predetermined integer.

14. The method of optically determining coordinates according to claim 1 wherein each of the light emitting elements is sequentially activated in a limited area.

15. The method of optically determining coordinates according to claim 14 wherein every Nth number of the light emitting elements is sequentially activated outside the limited area, the Nth number being a predetermind integer.

16. The method of optically determining coordinates according to claim 1 wherein every Nth number of the light emitting elements is sequentially activated to detect the light at each of the predetermined ones of the light detecting elements, the Nth number being a predetermined integer.

17. The method of optically determining coordinates according to claim 16 wherein each of the linearly and equidistantly placed light emitting elements is sequentially activated upon failing to detect the light at any one of the predetermined ones of the light detecting elements.

18. The method of optically determining coordinates according to claim 1 wherein each and every Nth number of the light emitting elements are alternately activated

to detect the light at each of the predetermined ones of the light detecting elements, the Nth number being a predetermined integer.

19. A storage medium containing computer instructions for optically determining coordinates in a predetermined space, comprising:

providing a predetermined number of pairs of light emitting elements and light detecting elements in the predetermined space defined by a predetermined number of axes;

placing each of the pairs parallel to one of the predetermined number of the axes, each of the pairs including one linearly and equidistantly placed set of the light emitting elements and another linearly and equidistantly placed set of the light detecting elements;

sequentially activating one of the light emitting elements in one of the pairs for emitting light;

inputting input coordinates in the predetermined space by interrupting the emitted light from the sequentially activated one of the light emitting elements;

detecting the light from the sequentially activated one of the light emitting elements at a plurality of predetermined ones of the light detecting elements of the one of the pairs so as to generate a detection result, the predetermined ones of the light detecting elements overlap for some of the sequentially activated ones of the light emitting elements;

repeating said sequentially activating and said detecting for each of the predetermined number of the axes; and

determining the input coordinates in the predetermined space based upon the detection result from said detecting.

20. The storage medium containing computer instructions for optically determining coordinates according to claim 19 wherein the predetermined space is two-dimensional and the predetermined number of pairs is two.

21. The storage medium containing computer instructions for optically determining coordinates according to claim 19 wherein the predetermined space is three-dimensional and the predetermined number of pairs is three.

22. The storage medium containing computer instructions for optically determining coordinates according to claim 19 wherein the predetermined ones of the light detecting elements in said detecting are determined in advance for each of the light emitting elements and are stored in a table.

23. The storage medium containing computer instructions for optically determining coordinates according to claim 22 wherein the predetermined ones of the light detecting elements are compared to the detection result in said determining.

24. The storage medium containing computer instructions for optically determining coordinates according to claim 19 wherein the detection result is a minimal distance pair having a minimal difference in distance between a centrally located position of the predetermined ones of the light detecting elements that fail to detect the light and a corresponding position of the sequentially activated light emitting elements.

25. The storage medium containing computer instructions for optically determining coordinates according to claim 24 wherein a location of the centrally located one of the predetermined ones of the light detecting elements that fail to detect the light is arithmetically determined.

26. The storage medium containing computer instructions for optically determining coordinates according to claim 25 wherein the minimal distance pair is determined for each of the axes.

27. The storage medium containing computer instructions for optically determining coordinates according to claim 26 wherein the input coordinates are determined based upon the corresponding ones of the sequentially activated light emitting elements if the minimal distance pair is zero for each of the axes.

28. The storage medium containing computer instructions for optically determining coordinates according to claim 27 wherein the input coordinates are determined based upon coordinates of a cross point of lines if the minimal distance pair is

other than zero for any of the axes, each of the lines being defined by the centrally located position of the predetermined ones of the light detecting elements that fail to detect the light and the corresponding one position of the sequentially activated light emitting elements.

29. The storage medium containing computer instructions for optically determining coordinates according to claim 19 wherein said repeating said sequentially activating and said detecting is continuously performed until a predetermined amount of time elapses.

30. The storage medium containing computer instructions for optically determining coordinates according to claim 29 wherein each of the light emitting elements is sequentially activated in a limited area before the predetermined amount of time elapses.

31. The storage medium containing computer instructions for optically determining coordinates according to claim 30 wherein every Nth number of light emitting elements is sequentially activated, the Nth number being a predetermined integer.

32. The storage medium containing computer instructions for optically determining coordinates according to claim 19 wherein each of the light emitting elements is sequentially activated in a limited area.

33. The storage medium containing computer instructions for optically determining coordinates according to claim 32 wherein every Nth number of the light emitting elements is sequentially activated outside the limited area, the Nth number being a predetermined integer.

34. The storage medium containing computer instructions for optically determining coordinates according to claim 19 wherein every Nth number of the light emitting elements is sequentially activated to detect the light at each of the predetermined ones of the light detecting elements, the Nth number being a predetermined integer.

35. The storage medium containing computer instructions for optically determining coordinates according to claim 34 wherein each of light emitting elements is sequentially activated upon failing to detect the light at any one of the predetermined ones of the light detecting elements.

36. The storage medium containing computer instructions for optically determining coordinates according to claim 19 wherein each and every Nth number of the light emitting elements are alternately activated for the light emitting elements to detect the light at each of the predetermined ones of the light detecting elements, the Nth number being a predetermined integer.

37. A system for optically determining coordinates in a predetermined space, comprising:

a predetermined number of pairs of light emitting elements and light detecting elements in the predetermined space defined by a predetermined number of axes, each of the pairs being placed parallel to one of the predetermined number of the axes, each of the pairs including one linearly and equidistantly placed set of said light emitting elements and another linearly and equidistantly placed set of said light detecting elements;

a control unit connected to said light emitting elements for sequentially activating one of said light emitting elements in one of said pairs for emitting light, said control unit also being connected to said light detecting elements for controlling to detect the light from the sequentially activated one of said light emitting elements at a plurality of predetermined ones of said light detecting elements of the one of said pairs so as to generate a detection result, the predetermined ones of said light detecting elements overlapping for some of the sequentially activated ones of said light emitting elements, said control unit sequentially activating said light emitting elements and said light detecting elements for each of the predetermined number of the axes in a repeating manner;

an input object for inputting input coordinates in the predetermined space by interrupting the emitted light from the sequentially activated one of said light emitting elements; and

an input coordinate determination unit connected to said control unit for determining the input coordinates in the predetermined space based upon the detection result.

38. The system for optically determining coordinates according to claim 37 wherein the predetermined space is two-dimensional and the predetermined number of pairs is two.

39. The system for optically determining coordinates according to claim 37 wherein the predetermined space is three-dimensional and the predetermined number of pairs is three.

40. The system for optically determining coordinates according to claim 37 further comprising a storage unit connected to said control unit for storing in a table the predetermined ones of said light detecting elements that are determined in advance for each of said light emitting elements.

41. The system for optically determining coordinates according to claim 40 wherein said control unit compares the detection result to the predetermined ones of said light detecting elements in the table.

42. The system for optically determining coordinates according to claim 37 wherein said input coordinate determination unit determines a minimal distance pair having a minimal difference in distance between a centrally located position of the predetermined ones of said light detecting elements that fail to detect the light and a corresponding position of said sequentially activated light emitting elements.

43. The system for optically determining coordinates according to claim 42 wherein said input coordinate determination unit arithmetically determines a location of the centrally located one of the predetermined ones of said light detecting elements that fail to detect the light.

44. The system for optically determining coordinates according to claim 43 wherein said input coordinate determination unit determines the minimal distance pair for each of the axes.

45. The system for optically determining coordinates according to claim 44 wherein said input coordinate determination unit determines the input coordinates based upon a corresponding location of said sequentially activated light emitting elements if the minimal distance pair is zero for each of the axes.

46. The system for optically determining coordinates according to claim 45 wherein said input coordinate determination unit determines the input coordinates based upon coordinates of a cross point of lines if the minimal distance pair is other than zero for any of the axes, each of the lines being defined by the centrally located position of the predetermined ones of said light detecting elements that fail to detect the light and the corresponding one position of said sequentially activated light emitting elements.

47. The system for optically determining coordinates according to claim 37 wherein said control unit repeatedly activates and detects until a predetermined amount of time elapses.

48. The system for optically determining coordinates according to claim 47 wherein said control unit sequentially activates each of said light emitting elements in a limited area before the predetermined amount of time elapses.

49. The system for optically determining coordinates according to claim 48 wherein said control unit sequentially activates every Nth number of said light emitting elements, the Nth number is a predetermined integer.

50. The system for optically determining coordinates according to claim 37 wherein said control unit sequentially activates each of said light emitting elements.

51. The system for optically determining coordinates according to claim 50 wherein said control unit sequentially activates every Nth number of said light emitting elements, the Nth number is a predetermined integer.

52. The system for optically determining coordinates according to claim 37 wherein said control unit activates each of the predetermined number of said light emitting elements while said control unit causes the predetermined ones of said light detecting elements to detecting the light.

53. The system for optically determining coordinates according to claim 52 wherein said control unit sequentially activates each of said light emitting elements upon failing to detect the light at any one of the predetermined ones of said light detecting elements.

54. The system for optically determining coordinates according to claim 37 wherein said control unit alternately activates each and every Nth number of said light emitting elements to detect the light at each of the predetermined ones of said light detecting elements, the Nth number is a predetermined integer.

55. An electronic blackboard for displaying and optically inputting information, comprising:

a writing/displaying unit having a surface to display and receive the information, the surface having edges;

a predetermined number of pairs of light emitting elements and light detecting elements located near the edges, each of the pairs being placed parallel, each of the pairs including one linearly and equidistantly placed set of said light emitting elements and another linearly and equidistantly placed set of said light detecting elements;

a control unit connected to said light emitting elements for sequentially activating one of said light emitting elements in one of said pairs for emitting light, said control unit also being connected to said light detecting elements for controlling to detect the light from the sequentially activated one of said light emitting elements at a plurality of predetermined ones of said light detecting elements of the one of said pairs so as to

generate a detection result, the predetermined ones of said light detecting elements overlapping for some of the sequentially activated ones of said light emitting elements, said control unit sequentially activating said light emitting elements and said light detecting elements for each of the predetermined number of the axes in a repeating manner;

an input object on the surface for inputting input coordinates in the predetermined space by interrupting the emitted light from the sequentially activated one of said light emitting elements; and

an input coordinate determination unit connected to said control unit for determining the input coordinates in the predetermined space based upon the detection result.